Professor Agassiz gave additional facts respecting the circulation of insects, and showed in the larva of the mosquito how true vessels, destined for the caudal bronchiæ, arise as branches from the *main tracheal* tubes.

Three hundred and twenty-third meeting.

November 6, 1849. — MONTHLY MEETING.

The PRESIDENT in the chair.

The President exhibited a model of the great wooden dam recently erected across the Connecticut River, at Hadley, and explained the means by which it was kept from floating, or from being carried down the stream.

Professor Horsford made a further communication upon the spheroidal state of water. He illustrated, by experiment, a phenomenon occurring when water is carefully dropped into a hemispherical capsule of polished platinum. The mass having been made to rotate by directing the drops of water obliquely upon the side of the capsule, at a certain stage the irregular motions and shape were resolved into a series of vanishing and reappearing indentations in the margin of the spheroid, of wonderful regularity and beauty. This scolloped edge was occasionally replaced with a series of wave intersections, exhibiting at the surface of the water systems of lozenges flitting from the circumference to the centre, diminishing till they vanished.

Professor Horsford suggested that the phenomenon might be due to the rotation of the mass, and its motion across the bottom of the capsule from one side to the other, tending, as the mass moved outward, to its elongation, and to contraction

The probable explanation is this. After firing the wood and shutting off the draft, destructive distillation commences. Inflammable gases issue from the wood, which, mingling with air derived from the pipe or remaining still unconsumed, furnish an explosive mixture, which the first jet of flame, or perhaps the incandescent coal, causes to explode.

"As these accidents are not of frequent occurrence, it may be found that the probability of producing inflammable gases in the required quantity is less with some varieties of wood than with others."

as it returned, while the rotation served to reduce the irregular form to that of a circle. The joint action and resolution of the forces thus brought into play might, Professor Horsford conceived, account for the phenomenon observed.

Further observations on the topic were made by the President and Mr. Hayes.

Professor Horsford likewise gave an account of the phenomena attending the death of a bear from strychnine, administered for the purpose by Professor Agassiz. Rapid decomposition commenced almost immediately after death.

Professor Agassiz gave a paper on the development of the ova in insects. His observations were made by following the tubular ovary of a species of Acheta, through the portion charged with ova in different stages up towards its termination, where it contains simple structural cells. Some of the latter merely take a further and special development, and become ova.

Three hundred and twenty-fourth meeting.

November 13, 1849. — QUARTERLY MEETING.

The PRESIDENT in the chair.

Mr. James D. Dana, through the Corresponding Secretary, presented a copy of his work, *The Geology of the United States Exploring Expedition.*

Mr. E. C. Cabot exhibited plans of the former and present wooden dams across the Connecticut River at Hadley, and explained the different principles on which they were constructed.

Professor Agassiz made a verbal communication, to show that, throughout all classes of the animal kingdom, there is such a direct relation between the structure of animals and the element in which they dwell, that the circumstance of habitat will go far towards determining the relative systematic position of groups and species; the marine animals ranking lowest, those of fresh water next, and the land animals highest: also, that the series so formed corresponds to the order of appearance in time.